



C h i f f r ô TM



Game Rules

First Edition

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à Arthur

About the game

Chiffrô is a competitive mathematical puzzle game based on playing cards and designed for 2 to 4 players. It is an exciting game for everyone; from school children learning mathematical equations, to the most competitive gamers! If you can add, subtract, multiply, and divide two numbers from 1 to 6, you can learn to play Chiffrô!

It is a game where each player, on their turn, tries to place their number-bearing cards on the playing field in the most strategic way possible. At the end of the game, the winner is the player who has the highest score on the playing field, as determined by the sum of the numbers on their cards that are still showing.

Chiffrô is a game of multiple choices and compromises. The Game allows your personality to be expressed; you can be defensive and concentrate on creating possibilities for yourself, or you can be aggressive and seek to conquer territory from other players. Chiffrô is also multi-player friendly, because it is difficult to gang-up on a successful player. Chiffrô rewards a game well played.

This is a simple game with infinite possibilities; no two games are alike. Are you interested? Do you want to learn how to play Chiffrô and become a formidable adversary? Read more to know more!

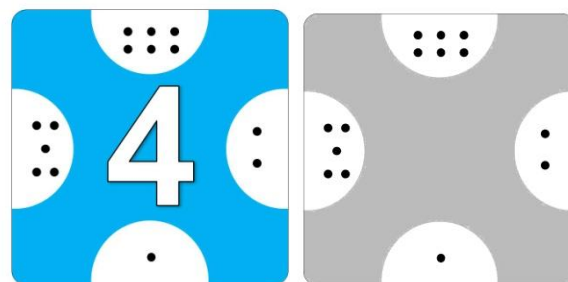
The Chiffrô playing card

The Game of Chiffrô is based on playing cards with a unique design. The Chiffrô playing card is square-shaped and has two types of numbers on it. On each side of the cards, there are numerical values represented in a form resembling faces from a traditional dice (**BOX 1**). These values can range from 1 to 6, and they constitute the numbers used to make mathematical equations in order to play cards on the playing field. The formulas can be additions, subtractions, multiplications, or divisions. At the center of the player cards, there is a large Arabic number (**BOX 1**). This Arabic number constitutes the solution to the mathematical functions that players must find on the playing field. These Arabic numbers can range from 1 to 6.

There is also a special version of the Chiffrô playing cards: the “starting” cards. These cards do not have an Arabic number at the center (**BOX 1**). They are used to build the initial playing field, the starting puzzle on which opponents will face each other.

BOX 1

Example of the two types of Chiffrô cards: the player card bearing an Arabic number (left) and the starting card (right)



Preparing the game

There are three steps to prepare the game:

1- Preparing the playing field: Take all of the starting cards, the ones without an Arabic number in the middle, and shuffle them. Randomly place them face-up next to each other, leaving about an inch (2cm) between each, to constitute a grid which should be 4 cards wide by 4 cards high for a 2-player game, 5 cards wide by 5 cards high for a 3-player game, and 5 cards wide by 6 cards high for a 4-player game. **BOX 2** shows an example of an initial setup for a 2-player game.

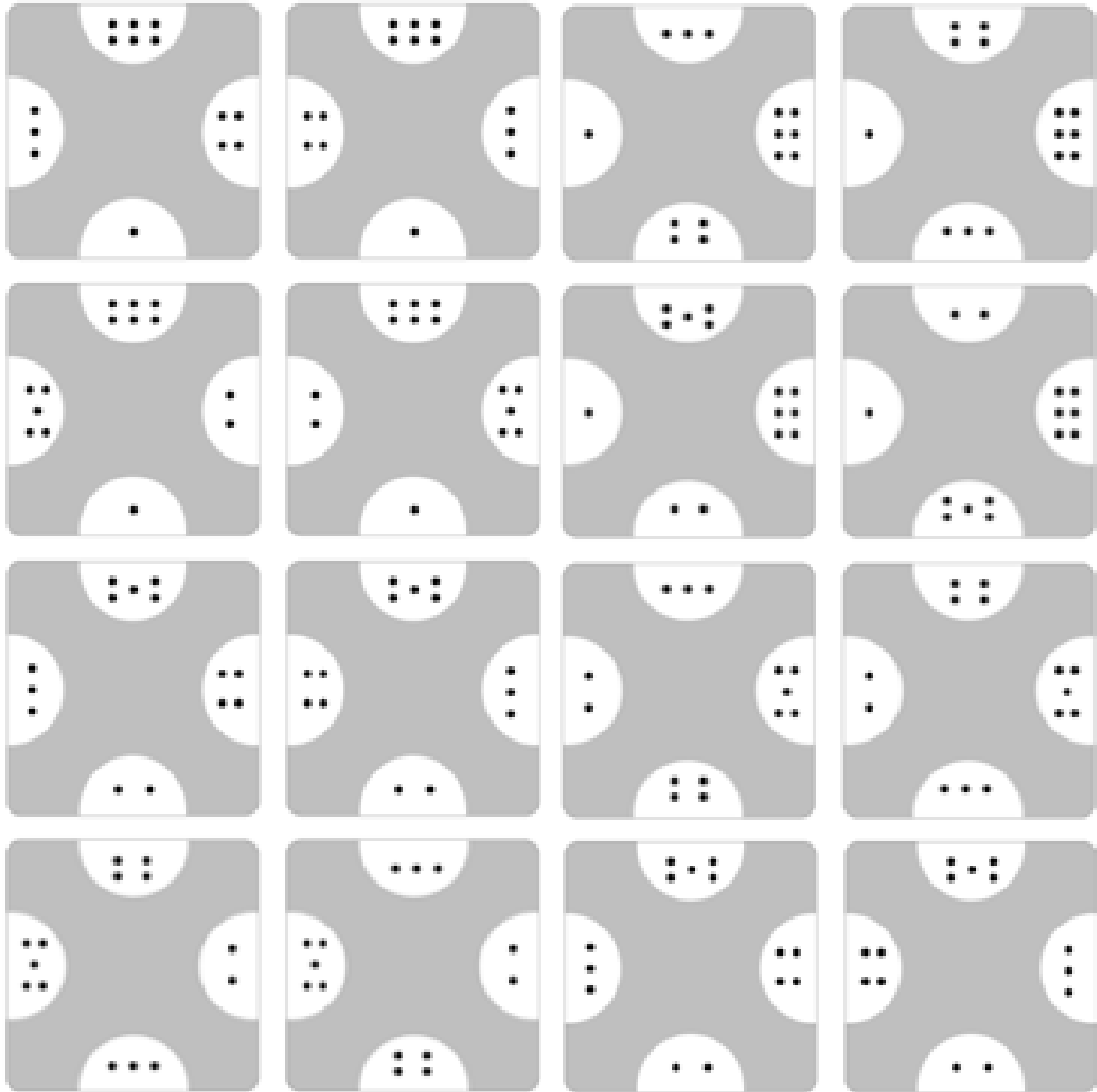
2- Choosing who starts the game: Take a bunch of Chiffrô playing cards, shuffle them, and have each player pick a card. The person who picks the highest card, as represented by the Arabic number at the center, will start the game. In case of a draw, restart the process. The playing order is clockwise when there are 3 or 4 players.

3- Preparing the players' cards: Each player chooses a color. The playing order determined at step 2 can be used to resolve any issue when more than one player wants a given color. Each player takes all the cards of their chosen color. Each player should have 24 cards to play, that is, 4 sets of cards with Arabic numbers going from 1 to 6. Each player shuffles and places their cards face-down in a pile.

The game is now ready!

BOX 2

Example of a starting card setup for a 2-player game



For a 3-player game, this grid is expanded with an extra row and an extra column, to form a 5 by 5 grid. For a 4-player game, a 5 by 6 grid is used.

Game sequence

The general sequence of play until the end of the game can be described in 6 simple steps:

1- On his/her turn, the first player takes the top 3 cards from his/her playing deck and places them face-up in front of him/her.

2- The player finds places on the playing field (**BOX 2**) where he/she can place these 3 cards, using the numerical values along the edges of two neighboring cards to form mathematical equations, the answer of which corresponds to the Arabic number on the card that the player wants to place on the playing field (*This is explained in detail in the following section*).

3- The player ends his/her turn when he/she has placed all 3 cards on the playing field. If it was not possible to find places to play all of them, remaining cards are discarded in another pile called **the penalty pile**. A player can also place one or more of their cards voluntarily in the penalty pile during their turn.

4- The player, having finished his/her turn, picks up three cards for the following turn but can only reveal them when it will be his/her turn to play again. Thus, the player can think about his/her next moves while waiting for his/her turn to play.

5- The next player does steps 1 to 4, and so on.

6- Players continue to play their turns until all the players' cards have been either placed on the playing field or in the players' penalty piles, after which the score of each player is calculated. To calculate the score of a player, do the sum of all the Arabic numbers seen on the playing field that are of that player's color, and modify this score with -1 for each group of 3 cards that the player did not place on the playing field (cards in his/her penalty pile).

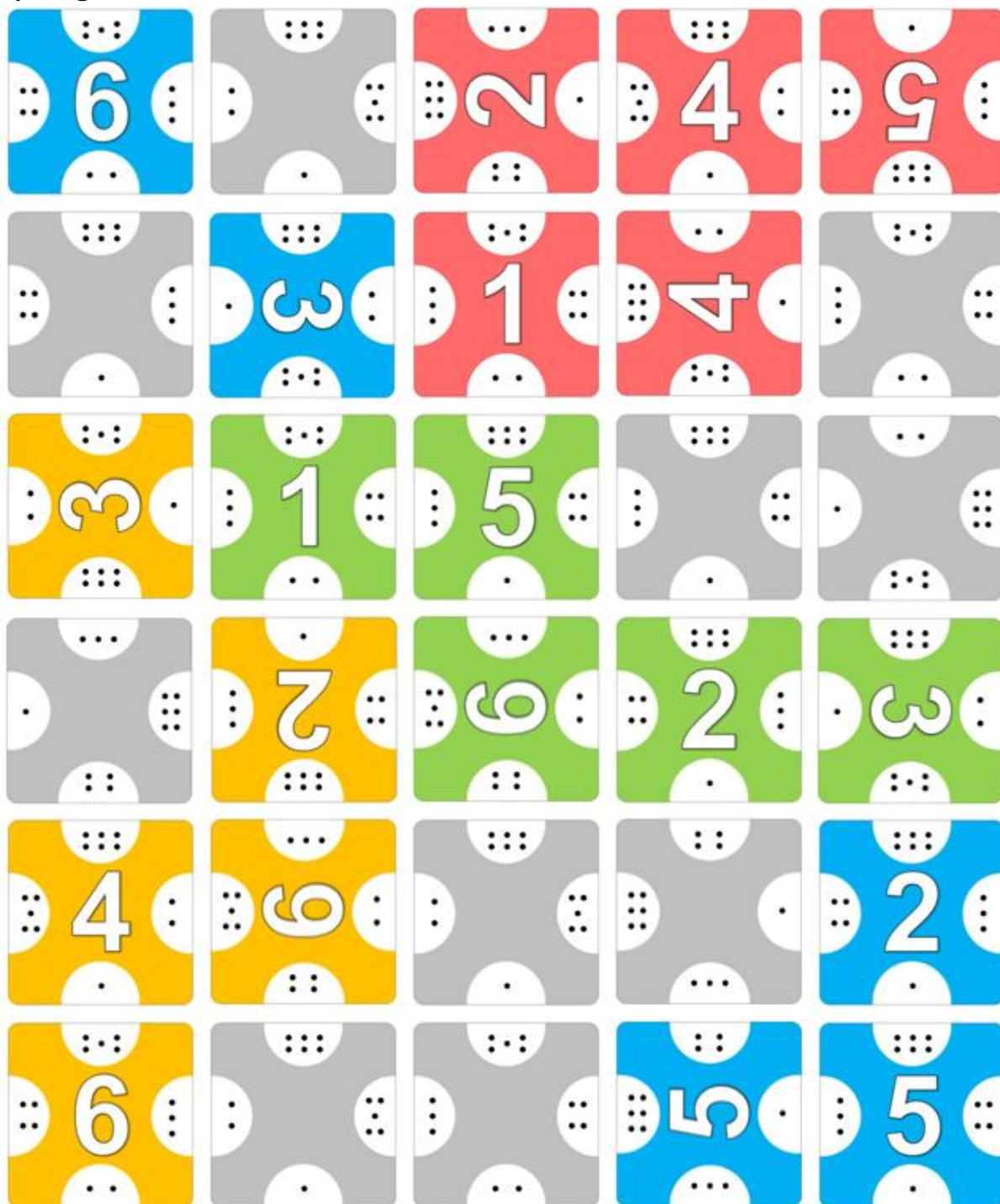
Exception – Players cannot play over other players' cards that are already on the playing field during the first turn of the game. Rules for playing over other player's cards are explained in following sections.

Optional rule – For players that prefer more control and less randomness, an optional rule could be to allow players to draw 6 cards, hold them, and on their turn, decide which 3 cards to keep and play, and place the 3 discarded ones back on top of their deck of cards. Such a rule could come into play mid-way in the game, for example, when there are no grey starting cards left on the playing field.

Box 3 shows what an ongoing 4-player game of Chiffrô may look like. Now, let's see the rules for placing player's cards on the playing field.

BOX 3

Example of a 4-player playing field during a game in progress



Who is leading the game in this example? Who has the best position going forward? Read more to know more about Chiffrô's game mechanics.

Placing your cards on the playing field

On a player's turn to play their three cards, the player looks at the playing field and tries to find possibilities to place them, which will further modify the puzzle for all players as the game goes on. Here are the rules to do so:

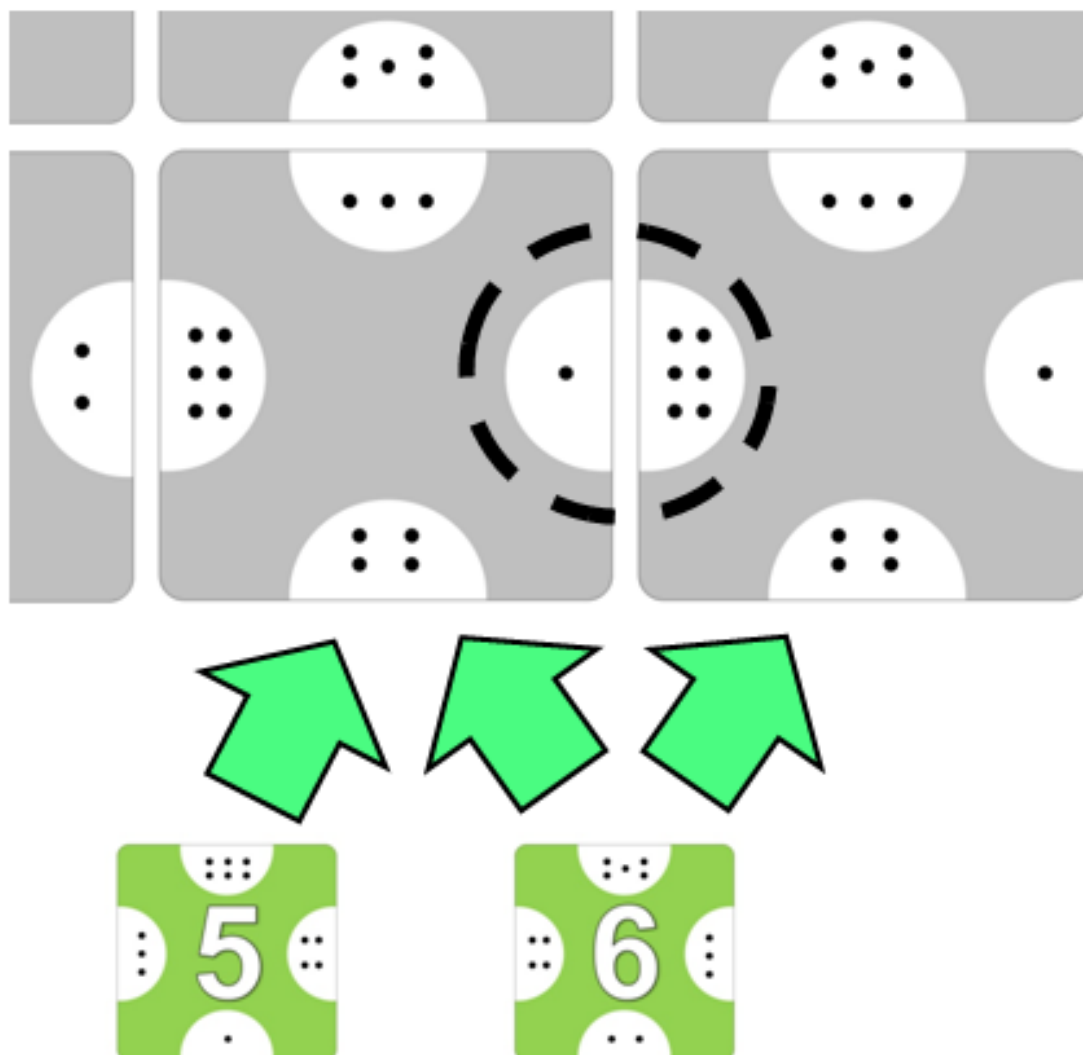
Solving equations: To play their cards, the players have to find a mathematical formula made from the numeric values along the sides of two neighboring cards on the playing field, which corresponds to the Arabic number at the center of the card they want to place on the playing field (**BOX 4**).

Restrictions: Once a player card is played on the playing field, the Arabic number at the center becomes a restriction that governs which cards can potentially be played on top of it (**BOX 5**). To play on top of a player card that has been played on the playing field, you have to lower or raise it by a factor of 1. For example, only a "3" or a "5" can be played on a "4". However, on a "6", a "5" or a "1" can be played, and on a "1", a "6" or a "2" can be played. Arabic numbers from 1 to 6 are thus treated as a loop.

Therefore, you can play on top of your own cards, and when you do so, the color of the neighboring card which is involved in the mathematical equation does not matter.

BOX 4

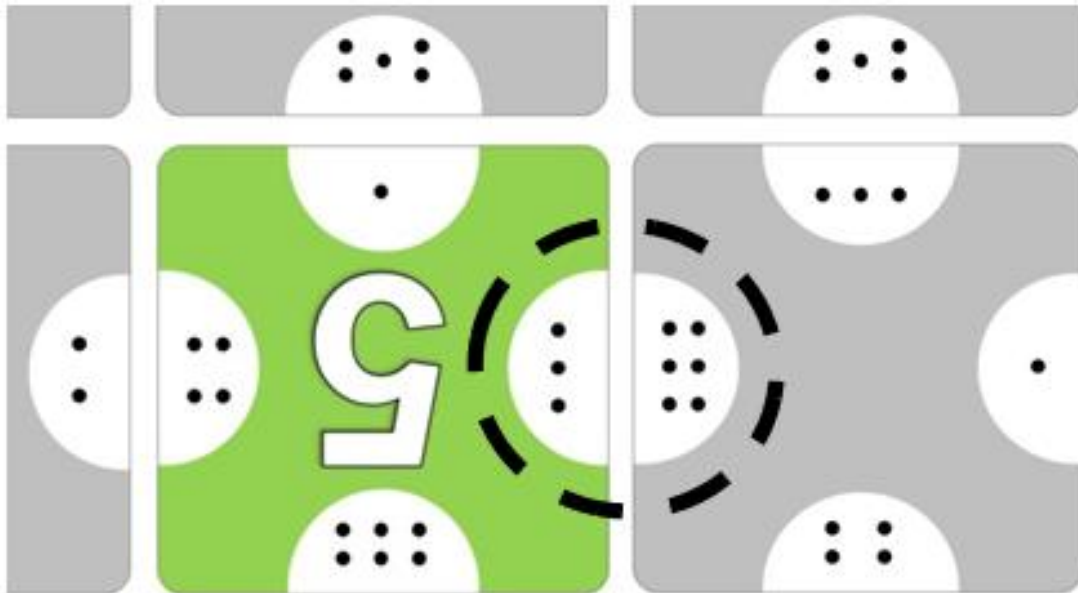
Example showing potential playing moves



Using the neighboring “1” and “6” numeric values on the sides of these two cards on the playing field, there are three possibilities for playing cards. A “5” or a “6” could be played on top of the card to the left, by doing $6 - 1 = 5$, $6 \div 1 = 6$, or $6 \times 1 = 6$. On the card to the right, a “6” could be placed by doing $1 \times 6 = 6$.

BOX 5

Example showing potential playing moves



In this example, it is impossible to play a card on top of the green “5” by using the “3” and the “6” numeric values from these two neighboring cards, because only a “4” or a “6” can be played on top of a “5”, and it is not possible to make a mathematical function that would work.

However, it is possible to play a “6” on top of that green “5” by using the starting card that is over it, by doing $5 + 1 = 6$.

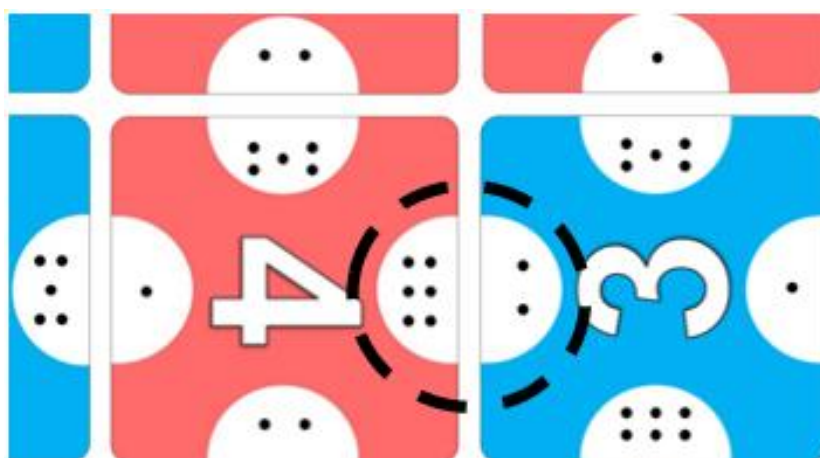
Conquering: It is possible to conquer territories owned by other players, that is, to deposit a card of your color on top of the other player's card on the playing field. There is an additional rule to respect in order to do this: One of the two side values used to make the mathematical equation has to be either from a starting card, or from a card of your color (**BOX 6**).

Rotation: Once you have found a place where you can and want to play a card on the playing field, keep in mind that there are 4 possible orientations in which you can deposit the card (**BOX 7**). Try rotating the card you intend to play and find the best way to place the card, in preparation for your next moves. This aspect is key to winning the game. You will soon discover that there is often a trade off between opening-up possibilities for yourself, and defending yourself by not creating opportunities for your opponents on the playing field.

Combos: You can use a card you have just deposited on the playing field to play your next cards within the same turn. In other words, you can use the values on the sides of the newly placed card, or deposit your next card on top of it. Combos are very useful when playing offensively, and will permit you to penetrate deep into your opponent's territory, if you can find a weak spot in your opponent's defences.

BOX 6

Example showing how it is possible to conquer

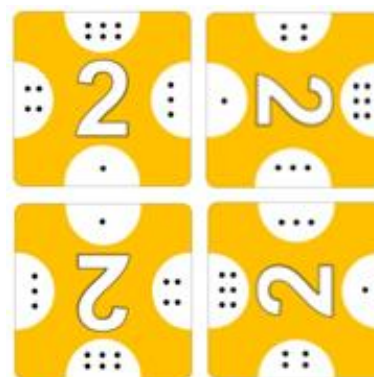


If the red player has a “4” among the 3 cards to play, he/she can conquer the blue player’s “3” card on the playing field, because $6 - 2 = 4$ and the player is using at least one side value of his/her own color to do the equation (in this case, the red “6”). Note that only a “2” or a “4” can be played over a “3”.

**BOX 7**

The 4 possible orientations of Chiff rô playing cards

When playing Chiff rô, rotate the card you want to play and try to choose the best orientation possible to improve your game.



Unidirectional equations: Note that additions and multiplications work in both directions and will give the same answer. For example, $2 + 3 = 5$, just like $3 + 2 = 5$. However, subtractions and divisions are unidirectional and only work in one direction. For example: $4 - 2 = 2$ but $2 - 4 = -2$, and you can't have negative answers, and $4 \div 2 = 2$ but $2 \div 4 = 0.5$, and you can't have decimal answers. The only exception is when two identical side values are used in a division or a multiplication, and in such cases the answer is the same in both directions (examples: $5 \div 5 = 1$, $2 \times 2 = 4$). In the example shown in **Box 6**, it is impossible to play a card on top of the red "4" by using the adjacent blue "3" card, because $2 - 6 = -4$, and $2 \div 6 = 0.33$. Try to use unidirectional equations to your advantage on the playing field.

Events and outcome

Here is some additional jargon to describe what may happen during a Chiffrô game:

Regular victory: This occurs when you win by having the highest score on the playing field at the end of the game.

Victory by conquest: This is a difficult type of victory to achieve. When the game ends because all the tiles on the playing field are of your colour, you have eliminated the other player(s), and you have won by conquest!

Being booted out: If other players play on top of all your cards on the playing field, you have been booted out because you no longer have cards of your color to use in mathematical equations that would allow you to continue placing your cards on the playing field. However, read on: you may be able to re-enter the game

Re-entry: If you have been booted out of the game, but there are still some starting cards on the playing field, you may be able to re-enter the game by making an equation that uses at least one value from a starting card. If no starting cards can be used (no equations fit), all three cards go to the penalty pile. If all starting cards are already covered, the player is eliminated from the game.

Playing a perfect game: When you manage to play all of your cards on the playing field, with none of them ending-up in your penalty pile, and that none of your cards on the playing field were ever conquered (played over) by the other player(s), you have played a perfect game! If you played a perfect game, you probably won that game too.

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